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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,590

11/16/2005

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692P001

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EXAMINER

BELLAMY, TAMIKO D

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,590	Applicant(s) THOMPSON ET AL.	
	Examiner TAMIKO D. BELLAMY	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-7,9,11-27,32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7,9,11-27,32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-9, 11-16, 27, 32, and 33 are rejected under 35 U.S.C. 103(a) as being anticipated by Mizuochi (JP62025229A) in view of Guest (3,691,819), and in further view of Lara (4,799,391).

Re claim 1, as depicted in fig. 1, Mizuochi discloses a housing (e.g., pig body 2) capable of traveling in a pipeline (1). Mizuochi discloses a housing (e.g., pig body 2) accommodating a, hydrophone (e.g., sensor (3) catching a leak sound), a timer (5) and a memory (e.g., storage device 7). Mizuochi discloses the hydrophone (3) and the timer (5) are capable of generating an output and the memory (e.g., storage device 7) is capable of recording the hydrophone output with reference to the timer output (abstract). As depicted in fig. 1, Mizuochi discloses the device (2) is shaped and sized to travel in the flow of fluid through pipeline (1) (See abstract). Mizuochi **lacks the detail of the device comprising a transmitter/receiver, and neutral buoyancy**. Guest discloses a leak location device (e.g., pig 10) comprising a transmitter/receiver (e.g. transmit-receive switch 64) (Col. 5, lines 48-67; Col. 6, lines 1-22). Therefore, to modify Mizuochi by employing a transmitter/receiver would have been obvious to one of ordinary skill in the art at the time of the invention since Guest teaches a leak detection device having theses

design characteristics. The skilled artisan would be motivated to combine the teachings of Mizuochi and Guest since Mizuochi states that his invention is applicable to leak detection device and Guest is only used to provide the added limitation of the leak detection device comprising a transmitter. The combination of Mizuochi and Guest discloses a pig used to detect a leak in a pipeline. **The combination of Mizuochi and Guest lacks the detail of the leak location device has substantially neutral buoyancy** in the fluid. Lara discloses a pig that has neutral buoyancy (Col. 5, lines 36-40).

Therefore, to modify the combination of Mizuochi and Guest by employing neutral buoyancy would have been obvious to one of ordinary skill in the art at the time of the invention since Lara teaches a pig monitoring the pipeline having theses design characteristics. The skilled artisan would be motivated to combine the teachings of the combination of Mizuochi and Guest and Lara since combination of Mizuochi and Guest states that the invention is applicable to a pig that monitors a condition of the pipeline and travels in fluid within the pipeline and Lara is directed using a pig that travels within a fluid pipeline.

Re claim 2, as depicted in fig. 1, Mizuochi discloses housing (e.g., pig body 2). While Mizuochi does not specifically discloses that the housing comprises a resilient outer surface, the court held in In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960), that the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Mizuochi on housing with a resilient outer surface would have been obvious to one of ordinary skill in

the art at the time of the invention since this reference explicitly teaches a housing that fed through a pipeline by applying liquid pressure.

Re claim 3, Mizuochi discloses inserting the device into the pipeline (2). While Mizuochi does not specifically disclose that the device is inserted and/or retrieved using a standard fitting, the device (2) of Mizuochi would operate as equally as well. Evidence of this can be found in Mizuochi that discloses inserting the device into the pipeline (See line last 2 lines of 1st par. of abstract). The functionality of the device (2) does not change regardless if inserted into a fitting or not. Therefore, to employ Mizuochi on inserting the device into a pipeline using a standard fitting would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches inserting the device into a pipeline.

Re claim 5, as depicted in fig. 1, Mizuochi discloses the housing (e.g., pig body 2) is spherical.

Re claim 6, as depicted in fig. 1, Mizuochi discloses the housing (2) is a spherical. While, Mizuochi lacks the detail of a oval housing, the court held in, In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966), that a change in the shape of a prior art device is a design consideration within the skill of the art. Therefore, to employ Mizuochi on a housing that is oval would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a housing that is rectangular.

Re claim 7, as depicted in fig. 1, Mizuochi discloses the device (2) is arranged such that the center of buoyancy and the center of gravity lie on its long axis.

Re claim 8, as depicted in fig. 1, Mizuochi discloses the device (2) is arranged such that the center of buoyancy and the center of gravity are separated from one another along the axis.

Re claim 9, Mizuochi discloses the hydrophone (3) and the timer output (5) are recorded (e.g., storage device 7) as the device (2) passes through the pipeline (1).

Re claim 11, Mizuochi discloses the determining there is a leak and locating the position of the leak (See last 4 lines of abstract).

Re claims 12-16, Mizuochi discloses a leak detection device (2). Mizuochi lacks the detail of the device comprising an electromagnetic transmitter. Guest discloses a leak location device (e.g., pig 10) comprising a transmitter (e.g. transmit-receive switch 64) (Col. 5, lines 48-67; Col. 6, lines 1-22). Therefore, to modify Mizuochi by employing an electromagnetic transmitter would have been obvious to one of ordinary skill in the art at the time of the invention since Guest teaches a leak detection device having these design characteristics. The skilled artisan would be motivated to combine the teachings of Mizuochi and Guest since Mizuochi states that his invention is applicable to leak detection device and Guest is only used to provide the added limitation of the leak detection device comprising a transmitter.

Re claim 27, Mizuochi discloses the leak location device (2) that collects acoustic data and emits a signal to a signal processor (6). Mizuochi discloses that leak information, acceleration information, and records of time are read out the storage device (7) to calculating the leak position (See last 4 lines of abstract). While Mizuochi does not specifically disclose that the data is compared to predetermined data indicative of a leak,

the processor that Mizuochi uses can easily be manipulated to compare the signal received from the leak detector (3) to predetermined data to indicate a leak. Therefore, to employ Mizuochi on data is compared to predetermined data indicative of a leak would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches inserting the device into a pipeline.

Re claim 32, as depicted in fig. 1, Mizuochi discloses the leak detection device (e.g., sensor (3) catching leak sound) is used in conjunction with a computing means (e.g., processor 6) used to process data collected by the device (3).

Re claim 33, Mizuochi discloses the leak detection device (3) and the computing means (e.g., processor 6) are arranged to such that the data may be downloaded from the leak detection device (3) to the computing means (6).

3. Claims 17-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Mizuochi (JP62025229A) in view of Lara (4,799,391).

Re claim 17, as depicted in fig. 1, Mizuochi discloses inserting a self-contained leak location device (e.g., pig body 2) capable of detecting noise (e.g., sensor (3) catching a leak sound) and recording (e.g., storage device 7) the occurrence of noise. Mizuochi discloses allowing the leak device (2) to travel through the pipeline (1). Mizuochi discloses recording the time (5) of the noise. As depicted in fig. 1, Mizuochi discloses the device (2) is shaped and sized to travel in flow of fluid through pipeline (1) (See abstract). Mizuochi **lacks the detail of the leak location device has substantially neutral buoyancy in the fluid.** Lara discloses a pig that has neutral buoyancy (Col. 5, lines 36-40). Therefore, to modify Mizuochi by employing neutral buoyancy would have

been obvious to one of ordinary skill in the art at the time of the invention since Lara teaches a pig monitoring the pipeline having these design characteristics. The skilled artisan would be motivated to combine the teachings of the combination of Mizuochi and Lara since Mizuochi states his invention is applicable to a pig that monitors a condition of the pipeline and travels in fluid within the pipeline and Lara is directed using a pig that travels within a fluid pipeline.

Re claim 18, Mizuochi discloses retrieving the leak location device (2) from the pipeline (1).

Re claim 19, Mizuochi discloses downloading the recording instances of noise along with the time (5) at which they were detected onto a computer device (e.g., processor 6).

Re claim 21, Mizuochi discloses tracking the position of the leak detection as it travels through the pipeline (See last 4 lines of abstract).

Re claim 22, Mizuochi discloses tracking is achieved by causing the leak detection device (e.g., sensor (3) catches leak sounds) to emit a signal (e.g., generating an inspection signal) continuously on receipt of a signal.

Re claim 23, Mizuochi discloses inserting the device into the pipeline (2). While Mizuochi does not specifically disclose that the device is inserted and/or retrieved using a standard fitting, the device (2) of Mizuochi would operate equally as well. Evidence of this can be found in Mizuochi that discloses inserting the device into the pipeline (See line last 2 lines of 1st par. of abstract). The functionality of the device (2) does not change regardless if inserted into a fitting or not. Therefore, to employ Mizuochi on

inserting the device into a pipeline using a standard fitting would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches inserting the device into a pipeline.

Re claims 24-26, Mizuochi discloses a leak detection device (2). Mizuochi lacks the detail of electromagnetic transmitters at points along the pipe. As depicted in figs 1 and 2, Guest discloses an emitter/transmitter (58) along a pipeline (12). While Guest does not disclose more than one **emitter** the court held in, In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960, that the duplicating the components of a prior art device is a design consideration within the skill of the art. Therefore, to modify Mizuochi by employing emitters and/ or detectors at points along the pipe would have been obvious to one of ordinary skill in the art at the time of the invention since Guest teaches a leak detection device having these design characteristics. The skilled artisan would be motivated to combine the teachings of Mizuochi and Guest since Mizuochi states that his invention is applicable to leak detection device and Guest is only used to provide the added limitation of the leak detection device comprising emitters/transmitters.

Response to Arguments

4. Applicant's arguments with respect to claims 1-3, 5-7, 9, 11-27, 32, and 33 have been considered but are moot in view of the new ground(s) of rejection. It is the examiners position that claims 1-3, 5-7, 9, 11-27, 32, and 33 are not patentable in view of the newly applied art of Mizuochi (JP62025229A) in view of Guest (3,691,819), and in further view of Lara (4,799,391).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

The following patents are cited to further show the state of art with respect to pig device having neutral buoyancy:

U.S. Pat. No. (6,474,165) as to Harper et al.

U.S. Pub No. (2004/0025607) as to Rantala et al.

U.S. Pat No. (6,931,952) as to Rantala et al.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAMIKO D. BELLAMY whose telephone number is (571)272-2190. The examiner can normally be reached on Monday - Friday 7:30 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Tamiko Bellamy

February 19, 2008

/Hezron Williams/
Supervisory Patent Examiner, Art Unit 2856